UNIVERSITY OF LONDON

GOLDSMITHS COLLEGE

B. Sc. Examination 2006

COMPUTING AND INFORMATION SYSTEMS

IS52015A (CIS221)
DATA COMMUNICATIONS AND WEBSITE DESIGN
Duration: 3 hours

Date and time:

This paper is in two parts, Part A and Part B. There are a total of three questions in each part. **You should answer <u>two</u> questions from Part A and <u>two</u> questions from Part B.** *Your answers to Part A and Part B should be written in separate answer books.*

Full marks will be awarded for complete answers to a total of four questions, two from Part A and two from Part B. Each question carries 25 marks. The marks for each part of a question are indicated at the end of the part in [.] brackets.

There are 100 marks available on this paper.

No calculators should be used.

THIS PAPER MUST NOT BE REMOVED FROM THE EXAMINATION ROOM

PART B (ANSWER ONLY 2 QUESTIONS FROM THIS PART)

Question 1

a)

      i.   What does CSS stand for?   [1]

      ii.   Give an example of a CSS rule and explain its structure. [1]

b)   What are the three types of selectors? [3]

c)   What are the most common applications of pseudo-classes and pseudo-elements? [2]

d)

      i.   What are the three techniques for adding style sheets to HTML documents? [3]

      ii.   What particular style sheet is discouraged by the W3C? [3]

e)   To apply style rules consistently to a large site with hundreds or thousands of pages, which type of style sheet would you use? [2]

f)

      i.   Write down a margin rule that sets non-default space around quoted text. [1]

      ii.   What are the four margins sub-properties, and can they be set by a shorthand declaration? [2]

      iii.   Provide an example where all four of the margins sub-properties are used.[2]

g)

      i.   Write down the HTML code for at least 5 FORM elements. [3]

      ii.   Write brief notes on the use of FORM's action and method attributes.[2]

Question 2

a)   What is the main difference between FTP and Telnet?   [2]

b)   What is a web server? What are two functions that it performs? What is meant by a PHP-enabled Web Server? [3]

c)   What are script comments? What character sequences do you use to create comments in PHP? [2]

d)   Which of the following are not valid PHP variable names?
1. $*2counter,
2. $_1_x,
3. $_soccer,
4. $_TimeCounter,
5. squared,
6. #income

Explain why your selection(s) are not valid PHP.   [3]

e)

ii. What are the operator precedence rules in PHP? [2]

iii. What would be the values of $a and $b after executing the following statements?

```php
<?php
$a = 11 * (4 + 5 )/3;
$b  =  16 % 12 + 2* 5;
?>
```
[3]

f)   What is the output of the following PHP code segment?

```php
<?php
$a = 102;
$b = 22;
$c  = $a - 34 %$b;
echo "c is $c but a is $a") ;
?>
```
[3]

g)

     i.   What is the difference between check boxes and radio buttons in HTML forms? [3]

     ii.   Create an HTML FORM that contains a select box with 3 options (books, cds, dvds) , two radio buttons (new customer, existing customer). [4]

Question 3

a)

    i.   What is meant by the term "flow of control"? [1]

    ii.   Write down the PHP-compliant syntax of the elseif and switch control statements. [2]

b)

    i.   Which logical operator is based on the mutual exclusion principle? [1]

    ii.   Consider the following truth table:

x	y	x&&y	x||y	!(x&&y)
true	true			
true	false			
false	true			
false	false			

Fill in the table with the appropriate true or false values. [3]

    iii.   What conclusion do you draw when comparing the results of x\|\|y and !(x&&y), on the truth table specified on part (b)(ii)? [1]

c)   What is the value of **$i** after running the following PHP code segment?

```
$i = 2;
$j = 3;
if ($i < $j && $i >0)
      $i = $i - 1;
elseif($i < $j)
     $i  = $i + 1;
else
     $i = $j;
```
[3]

d)   How many times will the loop in the following code be repeated?

```
$flag = 1;
$ctr =5;
while($flag){
     --$ctr;
     if($ctr > 5)
        $flag = 0;
}
```
[3]

e)

    i.   What is the primary difference between a built-in and a user-defined function?   [2]

    ii.   What would be the output from executing the following PHP code?

```
function  pow3($a){
    $a = $a * $a * $a;
}
$a = 10;
pow3(&$a);
print("Answer = $a");
```
                                                [3]

f)

  i.   Can an array defined in PHP contain elements of various data types? Justify your answer. [2]

  ii.   What would be the output from executing the following PHP code? [2]

```
$arr = array("Table", "Monitor", "Keyboard", "Chair");
print "$arr[1] and $arr[2] are parts of a PC and PCs
are usually found on $arr[0]s";
```

g)

    i.   Show an SQL statement that creates a table called 'Employee' and has the following five columns: [1]

```
name(VARCHAR(50)), address(VARCHAR(81)),
telephone(VARCHAR(30)), age(INT), employeeID(INT).
```

    ii.   What PHP function would you use to create the table of part (g)(i)? [1]